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THE INDUSTRIAL DISTRIBUTION OF JUVENILE LABOUR

1. INTRODUCTION

In a previous article we showed that, mainly as a result of the low birth rate of the inter-war years and of the education reforms, the juvenile labour force in 1947 was only 84 per cent of 1938, that the fall would probably continue to a small extent for the next few years, and that there would be no great increase until the 1960's.

The aim of this article is to show the position in individual industries, the absolute changes in the number of juveniles insured in them and the changes in the share of the juvenile labour force which they absorb. We also attempt to investigate the post-war trends, to show which industries will be most affected if these trends continue, and to compare the changes in the distribution of the juvenile labour force with the distribution of all insured workers.

In addition to this description, relevant to the study of present manpower problems, the investigation raises a number of incidental questions of interest: in particular, the position of juveniles in different industries (extent of blind-alley employment, etc.); the possibilities of substituting other kinds of labour for juvenile, or of economising in other ways in the use of juvenile labour; the determinants of the distribution pattern; and the adequacy of recruitment machinery.

The main data on which this study is based are figures of insured juveniles, by age and sex groups, classified by industry, for the years 1935–1947 (figures for earlier years are available but, for reasons given later, are not used). These figures have kindly been provided by the Ministry of Labour.

The limitations of the data must be made clear at the outset.

1. We are using figures of *insured* workers, so that unemployment is neglected.[1]

2. There have been a number of changes in the scope of insurance over the period, *viz* :

   (*a*) Agricultural workers became insurable for the first time in 1936 (the number of juveniles insured in that year was 75,000).

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[1] The extent of unemployment amongst insured juveniles is, of course, very small to-day compared to pre-war. The numbers of unemployed are (July of each year) :

1935	65,520	1945	9,038
1938	73,264	1947	7,858

(the figures exclude those who have not yet obtained their first job).

(*b*) Domestic gardeners became insurable for the first time in 1937 (number of juveniles 8,000).

(*c*) Some domestic workers (not private domestic service) became insurable for the first time in 1938 (18,000 juveniles).

In addition, when comparing the juvenile labour force with adults insured, the following two changes are relevant :[1]

(*d*) Women aged 60—64 were excluded in 1940.

(*e*) Non-manual workers earning £250–£420 p.a. became insurable in 1941.

3. The number of industries in the Ministry of Labour classification increased (through division) from 103 in 1935 to 114 in 1947. There was also some revision in the definition of individual industries.[2]

In ascribing significance to changes in the insured juvenile labour force, we are assuming that juvenile labour has important special characteristics from the viewpoint of industry. Thus a rise in the school-leaving age will affect the size of the juvenile labour force, but not necessarily (except in the year following) the rate of recruitment of juveniles. If juveniles are only considered as material for training as adult workers, a raising of the school-leaving age can probably be balanced by an equivalent increase in the age at which training ends, which, though it might involve such adjustments as higher wages for trainees, would, from the manpower point of view, probably not be very serious.

The figures of juvenile new entrants[3] have been analysed, and show no significant difference from the picture given in the following pages. They are in any case not so easy to use, both because they are not given in the same detail as the figures we use, and because they record only entry into first insurable job.

2. CHANGES IN THE DISTRIBUTION OF JUVENILE LABOUR BETWEEN INDUSTRIES, 1935–1947

Table I gives a general picture of the distribution of juvenile labour between industry groups over the period. Over the whole period the changes are striking : a fall in the share of the juvenile labour force absorbed by the Distributive Trades from ¼ to 1/5 (the number of juveniles in them having fallen by 25 per cent.); a decline in the share of manufacturing from 53 per cent to 47 per cent; and a fall in the share of mining from 4.4 per cent to 2.2 per cent (the numbers having fallen by over half). The corresponding increases have been a strking rise in the share of building and a rise in the share of agriculture and of transport, together with big increases in the share taken by the : black-coated ' services—government and professional. Within

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[1] The combined effect of these two changes was to increase the total numbers insured in industry by about 2 per cent, which would reduce the percentage of juveniles to all insured by about 0.3 per cent.

[2] These were the transfer of a number of workers to ' General Engineering ' from ' Steel melting, etc. ' after 1938, the inclusion of a number of workers in ' Electrical Apparatus ' in 1937 for the first time, and some revision of the classification of transport workers.

[3] *Ministry of Labour Gazette*, November, 1947.

TABLE I

Juveniles aged 14–17 *insured by industry groups. Great Britain. July*

Industry	Numbers ('000) 1935	1938	1943	1945	1947	Per Cent 1935	1938	1943	1945	1947
Agriculture ...	1[1]	69	81	79	69	0.1[1]	3.2	4.2	4.4	4.1
Mining and Quarrying	77	82	62	42	37	4.4	3.9	3.2	2.3	2.2
Buildg. and Contractg.	73	94	85	105	130	4.2	4.4	4.4	5.8	7.7
Manufacturing ...	915	1072	942	806	786	52.6	50.2	48.6	44.7	46.8
Trans. and Utilities	52	65	80	87	72	3.0	3.1	4.1	4.8	4.3
Distribution ...	441	495	405	403	334	25.4	23.2	20.9	22.4	19.9
Government ...	18	35	87	82	61	1.1	1.6	4.5	4.6	3.6
Prof. and Commerce	39	64	74	76	70	2.3	3.0	3.9	4.2	4.1
Other Services[2] ...	124	160	124	124	122	7.1	7.5	6.4	6.9	7.2
All Indust. & Services	1740	2137	1940	1803	1680	100.0	100.0	100.0	100.0	100.0

[1] Fishing only in 1935. [2] Including 'Other Industries' (11,000 or 0.64% in 1947).

The following gives a summary of the changes within Manufacturing :

	Metal and Instrumental (000's)	%	*Manufactured Materials* (000's)	%	*Consumer Goods* (000's)	%
1935	281	16.1	82	4.7	552	31.7
1938	369	17.3	96	4.5	608	28.4
1943	462	23.8	86	4.4	394	20.3
1945	355	19.7	78	4.3	373	20.7
1947	302	18.0	74	4.4	410	24.4

Note.—Manufactured Materials are : Sawmilling, Wood Boxes, Other Wood, Tanning, Rubber, Concrete, Bricks, Cement, Glass, Paint, Wallpaper, Chemicals, Explosives, Coke Ovens, Paper.

the manufacturing group there has been a slight increase in the share of Metal and Instrumental and a decrease in the share of Consumer Goods. The latter are largely the result of war-time changes, the trend since 1943 being back to pre-war; the fall in the share in manufacturing as a whole is a reflection of the drop in the proportion of juveniles absorbed by consumer goods industries.

Some more detail is given in Table II, where over 100 industries used in the Ministry of Labour classification are grouped approximately into the 24 major orders of the Standard Industrial Classification. Using this Table as a base, we will first examine the changes between 1935 and 1938, then compare the distribution in 1947 and 1938, and finally glance at the post-war trends.

(*a*) *Changes between* 1935 *and* 1938

1935 is the earliest date which can be used for comparison with later figures, as prior to that date juveniles under 16 were not insurable. The changes in the distribution of insured juveniles aged 16–18 between 1929 and 1935 have been compared with the changes in the distribution of insured juveniles aged 14–18 from 1935, but no clear picture emerges.

1935 is not the best year to use as a year for comparison with the post-war position; for one reason, there were a number of changes in insurance coverage between 1935 and 1938. We shall therefore take 1938 as the year

TABLE II

Percentage of Total Insured Juveniles aged 14–17 in each industrial group, by Standard Industrial Classification,[1] for July of each year. Great Britain.

Order	Industrial Group	1935	1938	1943	1945	1947	1948[3]
I	Agric., Forestry, Fishing	0.1[2]	3.2	4.2	4.4	4.1	4.8
II	Mining and Quarrying	4.4	3.9	3.2	2.3	2.2	2.2
III	Treatmt. of Non-Metal. Mining Prods. (excl. Coal)	2.2	2.0	1.4	1.2	1.5	1.5
IV	Chemicals, etc.	1.5	1.6	2.1	2.1	1.9	1.9
V	Metal Manufacture	1.9	1.9	1.9	1.6	1.6	1.7
VI	Eng., Shipdg. and Electrical Goods	7.5	8.6	12.5	10.2	9.0	7.6
VII	Vehicles	2.4	3.0	5.7	4.8	4.1	4.4
VIII	Metal Goods not elsewhere spec.	4.4	3.8	3.7	3.2	3.2	2.7
IX	Precision Instruments, Jewellery, etc.	1.0	1.0	0.8	0.7	0.9	0.8
X	Textiles	9.2	7.9	5.2	4.7	5.7	5.8
XI	Leather and Fur	0.8	0.6	0.5	0.5	0.6	0.5
XII	Clothing	7.7	6.8	5.3	5.3	6.7	6.3
XIII	Food, Drink and Tobacco	5.5	5.0	4.5	4.8	4.5	4.7
XIV	Manuf. of Wood and Cork	2.5	2.4	1.8	2.1	2.2	2.1
XV	Paper and Printing	4.7	4.5	2.6	3.0	3.9	3.8
XVI	Other Manuf. Industries	1.3	1.1	0.6	0.6	2.3[2]	1.4
XVII	Building and Contracting	4.2	4.4	4.4	5.8	7.7	7.7
XVIII	Gas, Electric., Water	0.5	0.6	0.6	0.7	0.7	0.8
XIX	Trans. and Communications	2.5	2.5	3.5	4.2	3.6	4.9
XX	Distributive Trades	25.4	23.2	20.9	22.4	19.9	18.4
XXI	Insurance, Banking and Finance	1.2	1.4	2.0	2.1	1.9	1.7
XXII	Public Admin. and Defence	1.1	1.6	4.5	4.6	3.6	2.5
XXIII	Professional Services	1.1	1.6	1.9	2.1	2.2	3.5
XXIV	Miscellaneous Services	7.1	7.5	6.4	6.9	6.0[2]	8.6
All Industries and Services		100	100	100	100	100	100

[1] On the Standard Industrial Classification, see the publication of that name (H.M.S.O. 1948). The grouping of industries here is only approximate, as it is made from the Ministry of Labour classification. *E.g.*, in all years but 1947 Industries and Services not separately specified are here included in Miscellaneous Services. On the previous basis ' Other Manufacturing ' would have had in 1947 1.7 per cent and ' Miscellaneous Services ' 6.6 per cent.

[2] Fishing only.

[3] 1948 figures are not directly comparable with those for earlier years. See text p. 12.

with which to compare the post-war position, briefly noting here the changes between 1935 and 1938. There was a big increase in the number of juveniles insured between the two years. Part of this is accounted for by the inclusion of agriculture for the first time. For the rest, the increase was absorbed mainly by Engineering and Vehicles, and by Professional and Public Services. The share of the juvenile labour force absorbed by Mining, Miscellaneous Metal Goods, Textiles, Clothing, and Food and Tobacco fall considerably. (There were also decreases in the share taken by Distribution and a few other industry groups).

(*b*) *Changes between* 1938 *and* 1947

Between 1938 and 1947 the total number of insured juveniles fell from 2,137,300 to 1,680,000. As a consequence, very few industries (only 22 out of 111) actually increased their juvenile labour force.

SHARES OF JUVENILE LABOUR TAKEN BY INDUSTRY GROUPS

However, Table II shows that 10 industry groups increased their *share* of the juvenile labour force. They are Building, Agriculture, Vehicles and

Engineering, Transport and Utilities, Chemicals, and Public Administration, Professional and Finance. The increase in the share of Building (4.4 per cent to 7.7 per cent) and Public Administration (1.6 per cent to 3.6 per cent) are most notable. Building, with its special post-war boom, has evidently found little difficulty in recruiting juveniles (who constitute a higher proportion of its total labour force than in 1939); Agriculture has had, of course, a boom since the beginning of the war, but has not been able to attract juveniles as easily as Building. Engineering and Vehicles and Transport have increased shares largely as a result of war conditions and are returning towards the pre-war pattern: in the case of Engineering it was the concentration of manpower in general in this group of industries, in the case of Transport rather the substitution of juvenile for adult labour. The shift towards the 'black-coated' industries is particularly noteworthy.

The industries which have a decreased share of the juvenile labour force include both most of the consumer goods industries and those industries whose manpower shortage has been the object of considerable attention since the end of the war. The fall in Textiles and Mining is particularly sharp, while that in Clothing is remarkably small. The fall in the Distributive Trades is not so considerable—it still absorbs 1/5 of the total juvenile labour force. Unfortunately, until the new Standard Industrial Classification was introduced in July 1948, no break-down of this huge category has been made, and we cannot see whether some of the distributive trades have had more difficulty in recruiting juveniles than others. Even though one factor responsible for driving many juveniles into Distribution before the war, the lack of other openings,[1] no longer has the same force, other motives, such as relatively high initial wages, still seem to have their effect. But there has, of course, been a fairly large fall in the absolute numbers of juveniles in Distribution—from 495 to 334 thousand.

MAIN JUVENILE EMPLOYING INDUSTRIES

Out of 109 industries in the classification in 1938, only 23, each employing more than 25,000 juveniles, accounted for 70 per cent of the total insured juvenile labour force. Table III shows these industries, together with the industries which employed more than 20,000 juveniles in 1947 (the limit is lowered as there has been a fall of 1|5 in the total juvenile labour force). It should be noted that the industries included are not necessarily those in which juveniles constitute a high *proportion* of the total labour force.

Only 5 of the industries with more than 25,000 juveniles in 1938 actually increased their total number of juveniles in 1947—Building, Farming, Motor Vehicles, etc., Professional and Commerce. But four industries had increases so that they moved up into this group in 1947—National Government (15,190 to 32,140, *i.e.* a doubling of numbers), Local Government (19,720 to 28,930), Entertainments and Sports (19,600 to 25,200), and Rails (17,600 to 26,120). Five out of these nine were ' black-coated ' services.

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[1] See the studies of Juvenile Unemployment by Jewkes, Winterbottom, Meara, etc.

TABLE III

Industries with the largest numbers of insured juveniles aged 14–17 in 1938 and 1947. Great Britain. (25,000 or more in 1938, 20,000 or more in 1947).

Industry	Thousands of insured workers 14–17	Industry	Thousands of insured workers 14–17
July 1938		July 1947	
Distributive trades	495	Distributive trades	334
Gen. Eng., Engs.' Iron Founding	93	Building	108
Building	78	Gen. Eng., Engs.' Iron Founding	82
Coalmining	76	Motor, Cycles and Aircraft	60
Printing, Pub. and Bookdg.	62	Farming, Forestry, etc.	57
Metal Ind. not sep. spec.	57	Tailoring	45
Farming, Forestry, etc.	53	Printg., Pubg. and Bookbdg.	45
Tailoring	52	Metal Ind. not sep. spec.	41
Cotton spinng. and weaving	49	Professional Services	37
Laundry service	48	Hotel, Club, etc., Service	36
Hotel, Club, etc. service	48	Coalmining	33
Bread, Biscuits, Cakes, etc.	37	Com., Bank, Ins., Finance, etc.	32
Elec. Cable, App., Lamps, etc.	34	National Govt. Service	32
Woollen and Worsted	33	Local Govt. Service	29
Professional Services	33	Railway service	26
Furniture, makg., Upholstg., etc.	31	Cotton spin. and weaving	26
Com., Bank, Finance, etc.	31	Entertainmts. and sports	25
Hosiery	27	Bread, Biscuits, Cakes, etc.	25
Boots, Shoes, etc.,	27	Elec. Cable, App., Lamps, etc.	24
Shirts, Collars, Undercloth. etc.	27	Dressmaking and Millinery	23
Dressmaking and Millinery	26	Laundry service	22
Electrical engineering	25		

Among the decreases, one of the sharpest is in Coalmining from 75,980 to 33,230, *i.e.* by more than half. Three textile industries (Cotton, Wool and Hosiery) had very large falls. Some of the biggest employers of juvenile labour amongst Clothing industries experienced small, and others large, decreases. The decreases in Tailoring and Dressmaking, for example, were relatively small, while those in Shirts and in Boots and Shoes were sharper. Amongst others which experienced sharp falls were two personal services, Laundries and Hotels, Furniture, and Bread, Biscuits, Cake, etc. We have seen that the Engineering group has increased its share of the juvenile labour force, but within this, Electric Cable and Apparatus shows a fairly sharp fall in numbers, and General Engineering a smaller fall.

The downward trend is so predominant that the industries which, in 1947, were big employers of juvenile labour (20,000 and over) employed only 56 per cent of the juvenile labour force, compared with the 70 per cent employed by the industries which were big employers (25,000 and over) in 1938.

To sum up, juveniles are less concentrated in a few industries which are big employers of juvenile labour in 1947 than in 1938; only a few of these industries (5 out of the 9 being ' black-coated ' industries) have actually increased their juvenile labour force; and there have been notable decreases in the numbers in Coalmining, Distributive Trades and personal services, the main textile industries, various unclassified Metal industries, and some clothing and consumer goods industries.

Industries with Biggest Changes

In Table IV, attention is concentrated on the size of the change in the juvenile labour force, regardless of the importance of the industry in the juvenile labour market as a whole.

Of the increases by far the biggest is that in National Government, with very large increases also in Electrical Wiring and in Carriages and Carts, and considerable increases in Local Government, Railways, Building, Heating and Ventilating Apparatus, Shipping and Entertainments. Out of the 21 industries, only 8 are manufacturing industries, while 10 are services, either transport or services in which ' black-coated ' workers predominate. Outside those industries to which attention has already been directed above (the Services, Building, Agriculture and Vehicles), the following seem worthy of note. Electric Wiring, and Heating and Ventilating Apparatus both parallel the increase in the building industry, but they have been industries with a consistent increase over a long period; Chemicals is likewise a relatively new and expanding industry; while Carriages and Carts[1], and brushes and brooms have had a big post-war demand for their products.

Of the total increase in all these industries about three-quarters is accounted for by 6 industries—Building and Electrical Wiring, National and Local Government, Railways, and Entertainment—which have the largest numerical increases. Building and Electrical Wiring, Shipping services, Local Government and Entertainments increased their numbers of juveniles relatively to their number of adults. For National Government, Railways, Carriages and Carts, and Vehicles and Professional, the opposite was the case. There seems no clear pattern in this.

Table IV

Changes in Juvenile Labour Force, 1938–1947. *Great Britain.*

A. Industries which increased their number of insured juveniles aged 14–17 between July 1938 and July 1947.

Industry	*Numbers* (000's) 1938	1947	% *Increase*
National Govt. Service	15.1	32.1	111
Carriages, Carts, etc.	2.8	4.6	65
Electrical Wiring and Contracting	9.7	16.0	64
Railway Service	17.6	26.1	48
Local Government Service...	19.7	28.9	47
Building	78.3	107.6	37
Heating and Ventillating Apparatus	2.7	3.7	35
Shipping Service	7.8	10.3	32
Entertainments and Sports	19.6	25.2	28
Harbour, River and Canal Service	.9	1.1	27
Brushes and Brooms	2.9	3.5	19
Chemicals	16.5	18.7	13
Professional Services	33.2	37.2	12
Grain Milling	2.3	2.5	11
Farming, Forestry, etc.	52.9	56.8	7
Motor, Cycles, Aircraft	56.3	60.1	7
Com., Bank., Insur., Finance, etc.	30.5	32.5	6
Goods Transport by Road	11.2	11.7	5
Marine Engineering...	5.5	5.7	4
Pig Iron	.4	.4	3
Min. and Quarryg. not sep. spec. ...	.9	.9	2

[1] This covers such products as perambulators, horse-drawn carts and wheelbarrows.

B. Industries with largest fall in numbers of insured juveniles aged 14–17 between July 1938 and July 1947.

Industry	*Numbers* (000's)		% *Decrease*
	1938	1947	
(i) *Fall of* 50 *per cent or more*			
Lead, Tin, Copper Mining	.2	.1	75
Private Gardening	8.1	2.5	69
Slate Quarrying and Mining	.7	.3	61
Wallpaper Making	1.5	.6	61
Brick, Tile, Pipe Making, etc.	15.5	6.1	61
Stove, Grate, Pipe and Gen. Iron Foundg.	15.6	6.4	59
Brass and Allied Metal Wares	4.8	2.0	59
Linen	3.7	1.6	58
Hats and Caps	5.3	2.2	58
Sugar, Cocoa, Choc. and Confectionery	24.1	10.7	56
Coal Mining	76.0	33.2	56
Laundry Service	48.0	21.7	55
Oilcloth, Linoleum, etc.	1.3	.6	54
Other Road Passenger Transport	3.5	1.7	53
Jute	4.1	2.0	52
Lace	2.2	1.1	50
(ii) *Fall of* 25–49 *per cent*			
Cotton, Preparing, Spinning, etc.	29.2	14.7	50[1]
Silk Manufacture and Art. Silk Weaving	8.5	4.2	50[1]
Carpets	7.3	3.7	49
Bolts, Nuts, Screws, Rivets, Rails, etc.	6.9	3.6	48
Job Dyeing, Dry Cleaning, etc.	9.5	4.9	48
Iron Ore and Ironstone Mining, etc.	.5	.3	48
Textile Bleaching, Printing, Dyeing, etc.	11.8	6.3	47
Watches, Clocks, Plate, Jewellery, etc.	7.8	4.2	46
Cotton Manufacturing (Weaving)	19.6	10.9	44
Cardboard Boxes, Paper Bags and Stationery	23.2	12.9	44
Woollen and Worsted	33.3	19.1	43
Musical Instruments	1.4	.8	43
Iron and Steel Tubes	3.6	2.1	42
Pottery, Earthenware, etc.	14.9	8.9	41
Cement, Limekilns, Whiting	1.1	.7	40
Furniture Making, Upholstering, etc.	30.6	18.8	39
Hosiery	27.4	16.7	39
Explosives	2.2	1.4	37
Rubber	10.6	6.7	37
Wire, Wire Netting and Ropes	3.9	2.5	36
Leather Goods	7.6	4.9	36
Stone Quarrying and Mining	2.8	1.8	36
Hand Tools, Cutlery, Saws, Files	8.3	5.3	36
Textiles not sep. spec.	14.1	9.1	36
Boots, Shoes, Slippers, Clogs	27.3	17.5	36
Constructional Engineering	5.9	3.9	34
Electrical Engineering	25.3	17.1	33
Tinplates	3.2	2.2	33
Bread, Biscuits, Cakes, etc.	36.6	24.6	33
Distributive Trades	495.2	334.0	33
Shirts, Collars, Underclothing, etc.	26.8	17.9	33
Transport, Communic. and Storage, etc., not sep. spec.	3.7	2.5	31
Metal Ind. not sep. spec.	56.7	40.5	29
Electric Cable, App., Lamps, etc.	34.3	24.4	29
Stationery and Type Requisites	2.8	2.0	29
Printing, Publishing, Bookbinding	62.4	44.7	28
Dress Ind. not sep. spec.	8.4	6.1	27
Clay, Sand, Gravel and Chalk Pits	1.3	1.0	27
Paper and Paper Board	9.0	6.7	26
Paint, Varnish, Red and White Leads	3.8	2.8	25
Hemp, Rope, Cord, Twine, etc.	4.2	3.2	25

[1] The figures are just below 50 per cent, giving 50 on rounding off.

The industries with the big decreases are much more numerous. Sixteen industries suffered a fall of 50 per cent or more. They include Coal and other mining industries, Foundries, Brass Wares and Bricks, some of the smaller textile industries and Hats and Caps, Laundries and Private Gardening and 3 consumer goods industries. Most of these share the characteristic that work in them is unpleasant. Exceptions are Sugar and Confectionery, which was drastically restricted during the war (when the number of juveniles in it fell by $\frac{3}{4}$) and has been recovering since then (and Wallpaper likewise); and Other Road Passenger Transport (which covers mainly taxi-cabs). All of these industries suffered a fall in their total labour force, but in all but one (Lead, etc., Mining) the fall in the juvenile labour force was proportionately greater.

The 41 industries which had a reduction in their juvenile labour force of between 25 and 50 per cent include most of the metal goods industries, the rest of the mining and quarrying industries, the major textile and some clothing industries, the distributive trades, and a number of consumer goods industries. In almost all of these (exceptions being cotton weaving, silk, shirts, dressmaking, tinplates and musical instruments) the decline in the juvenile labour force was proportionately greater than the decline in total insured, although in most of them (engineering and metal goods being the main exceptions) the total number of insured workers also fell.

Taking both groups together, the industries which have suffered big falls in their juvenile labour force are Mining, Metal and Textile industries, the Personal Services and Distributive Trades, Bricks, Pottery, and Cement, and a few consumer goods industries. In the latter, the decline is largely the result of war-time restriction. In many of the former, the decline should cause little surprise, for they include the least permanently attractive of juvenile occupations, suffering in varying degrees from poor prospects and low wages, heavy pre-war unemployment and bad working conditions. These causes have been analysed during and since the war in a number of reports (the Working Party Reports, the Committees on the Brick Industry, etc.). But before saying more about their future prospects, it is advisable to examine the trends since the end of the war.

(*c*) *The Post-war Changes.* 1945–1947.

Unfortunately, 1947 is the latest year with which earlier figures can be directly compared. Between 1945 and 1947 the total number of juveniles fell from 1,803,000 to 1,680,000, partly because of the raising of the school-leaving age in April 1947; and between 1947 and 1948 (on the old basis) to 1,329,000 (also partly reflecting the raising of the school-leaving age).

To explain the post-war changes, we must make brief mention of the changes during the war. A number of industries had big increases in their juvenile labour force during the war. Broadly, they were of two kinds : those with a special war-time demand for their products, in which both the number of juveniles and, even more, the number of adults, rose sharply; and those with a derivative war-time demand, in which juveniles either increased in greater proportion than adults or actually replaced adults. In the case of the former a fall in their juvenile labour force took place after 1943; in the case of the latter a fall also took place, but generally not until after 1945.

A much larger number of industries had decreases in war-time in their juvenile labour force. These comprise broadly a number of consumer goods industries whose operations were severely restricted, and most of the unpopular industries to which we have already alluded (Coal, Textiles, Personal Services, etc.) Broadly speaking the latter have had little or no recovery since to parallel the fall in the ' war-time increase ' industries (their fall being largely absorbed by the fall in the total juvenile labour force).

The movement between 1945 and 1947 is a reflection of this picture—continuing falls in most of the war-time expansion industries, some recovery in a few consumer goods industries and one or two others such as building, with a small hard-won recovery or continued decrease in the ' unpopular ' industries.

We can see the broad picture in Table II. A fall between 1945 and 1947 in the share of the juvenile labour force absorbed by Agriculture, Chemicals, Engineering, Vehicles, Transport, Commerce and Public Administration, but all still above pre-war. A continuing fall in Mining, Distributive Trades and Other Services,[1] and Metal Goods. A recovery, but to a point well below pre-war, in Non-Metalliferous Mining Products, Textiles, Wood, Paper. A recovery to almost pre-war level in Clothing, and above it in Other Manufacturing. From this broad pattern there is some divergence. Building has had a considerable increase, Professional a small increase. Food, Drink and Tobacco fell back from a 1945 recovery.

Table V shows the numerical changes between 1945 and 1947 in the 27 main industries of Table III. Broadly speaking, the trend is back towards pre-war, but more generally so in the industries which increased their numbers between 1938 and 1947. The increases in most of the ' deficiency ' industries are, numerically, fairly small, with actual decreases in Coal and Distribution, and in Bread, Biscuits and Cake. Included in Group B are four Engineering and Metal industries in which the number of juveniles has fallen sufficiently to take them below pre-war, although, as we have seen, Engineering in general has a larger share of the juvenile labour force than in 1938. And in Group A Building has continued to increase.

1947–1948.

It is difficult to bring the picture more up to date. The latest Ministry of Labour figures of new entrants refer to the year ending July 1947.[2] The 1948 figures of insured juveniles by industry[3] are given only for the new Standard Industrial Classification and under the new National Insurance Act. Although estimates are given for total insured on the old insurance basis and old classification,[4] no estimates are given for juveniles separately. The 1948

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[1] Other services recovered somewhat in 1945 but then fell back again.

[2] The difficulties of using them have been referred to in section 1 above.

[3] *Ministry of Labour Gazette*, February 1949.

[4] *Ministry of Labour Gazette*, April, 1949.

TABLE V

Change in Number of Juveniles aged 14–17 Insured in 27 Main Industries between July 1945 and July 1947. Great Britain.

Industry	*Change* 1945–47	*Industry*	*Change* 1945–47
A Industries whose number of insured juveniles increased between 1938 and 1947			
Building	+ 21,720	Comm., Banking, Insur., Finance, etc.	— 5,220
Motors, Cycles, Aircraft	— 17,870	Local Govt. Service	— 6,820
Farming, Forestry, etc.	— 10.210	Entertainmts. and Sports	— 3,520
Professional Services	— 1,100	Railway Service	— 4,330
National Govt. Service	— 14,010		
B Industries whose number of insured juveniles decreased between 1938 and 1947			
Coalmining	— 3,610	Laundry Service	+ 690
Cotton	+ 4,400	Hotels, Restaurant, etc. Service	+ 130
Woollen and Worsted	+ 1,520	Gen. Eng., Eng. Iron Foundg.	— 19,360
Hosiery	+ 3,340	Metal Ind. not sep. spec.	— 1,600
Tailoring	+ 4,270	Elec. Cable, App., Lamps, etc.	— 3,220
Boots, Shoes, etc.	+ 540	Electrical Engineering	— 3,580
Shirts, Collars, Undercloth., etc.	+ 1,710	Furn. Making, Upholst., etc.	+ 5,250
Dressmaking and Millinery	+ 6,750	Bread, Biscuits, Cakes	— 2,170
Distributive Trades	— 68,980	Printg., Publ. and Bookbdg.	+ 7,610

figures are given in Table II. When comparing this with the 1947 figures note must be taken of two facts. (1) The figures for 1947 and previous years are only given in an *approximation* to the Standard Industrial Classification. The only difference which it is possible to measure precisely is the inclusion in Vehicles in 1948 of workers in Railway Locomotive Sheds and Loco Manufacture (4,420 juveniles in 1948), who, in previous years, are included in 'Engineering.' (2) The estimates of *total* insured juveniles under the old Act are 94 per cent of the estimates under the new Act. But this increase will not be evenly distributed. Probably the main groups affected will be Agriculture (farmers' relatives being insurable for the first time), Other Services (indoor private domestic servants being insurable for the first time), and possibly also Professional (nurses) and a few others.

Bearing in mind these qualifications, we can draw some tentative conclusions. It appears that the post-war fall in the proportion of the juvenile labour force taken by Public Administration, Engineering (allowing for the transfer of Loco Manufacture the share would only have fallen from 9.0 to 8.0 per cent), and Commerce has continued, but the decline in Transport, Vehicles, Chemicals and Agriculture has been halted. In the case of Transport there has been some increase, but the apparent increase in Agriculture has to be interpreted with caution. The rise in Building has been halted ; the rise in Other Manufacturing has been reversed, although that in Professional Services has continued.

Of the industries whose share declined from 1938 to 1947 the fall in the Distributive Trades and in Metal Goods has continued; that of Mining has been halted; Textiles have had a further small rise, and Treatment of Non-Metalliferous Mining Products has remained steady, but Clothing, Wood, Precision Instruments and Paper have had small reverses. The fall in Food has been reversed to a small extent, and in Other Services apparently to a considerable extent (but this must be interpreted with caution).

The trends of 1945–1947 appear therefore to have been reversed in a number of cases—the most significant being the arrested increase of Building, the arrested decrease of Mining, the relapse of Clothing and Other Manufacturing, and the considerable increase in Transport.

RECRUITMENT

For a few industries, recruitment figures are published by Government Departments or industrial organisations. The following figures for intake of juveniles into Coal mining are taken from the *Monthly Digest of Statistics* :

TABLE VI

Intake of Juveniles aged under 18 *to Coal Mining*

1945 (53 weeks)	9,571	1947 (53 weeks)	14,654
1946 (52 weeks)	12,691	1948 (52 weeks)	11,002

Recovery seems to have proceeded to 1947 (although the school-leaving age was raised in April of that year) but a recession to have set in in 1948.

For the building industry, some information is given for entry into the skilled trades in the Report of the Building Apprenticeship and Training Council.[1] The Council states that the rate of entry of boys into the industry for other than unskilled labouring was 20,000 during the year ending 30th September 1947, but that in the following 6 months the annual rate fell to under 13,000 and intake after the summer tended not to come up to expectations. These figures may be compared with their target of 22,000 a year. On the other hand the 1948 *Report of the London Regional Advisory Council for Youth Employment* refers to a shortage of apprenticeships. Presumably capital cuts after the fuel crisis may have had the effect of creating uncertainty in the industry, which would show itself in the number of apprenticeships offered.[2]

A further report of the Building Apprenticeship Council on the recruitment of masons[3]—of whom there is a particular shortage—shows the annual rate of recruitment rising from 164 in 1945 and 1946 to 173 in 1947 (all years ending at September 30th) but declining to 128 in the following 6 months.[4]

The only other up-to-date information available is for Cotton. The Cotton Board *Trade Letter* for April 1949 shows that the cotton industry in cotton areas of the North-Western Region absorbs 23 per cent of the total number of workers, but took 25.5 per cent of the school-leavers in December 1948 and 21 per cent in Midsummer 1948, compared with 23.6 per cent and 19.9 per cent at similar periods in 1946. Some particularly good results had been achieved in towns where special recruitment campaigns had been conducted.[5]

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[1] *Building Apprenticeship : Recruitment and Training, Nov.* 1948

[2] In London in the year ending Oct. 1st, 1948, only 1,108 apprentices were indentured. The organisation of the building industry makes apprenticeship difficult, and the Apprentice Master scheme, designed to overcome some of the difficulties, has not been widely adopted.

[3] *Building Apprenticeship : Recruitment of Masons, Nov.* 1948.

[4] The total number of insured masons in July 1947 was 9,080 compared to 18,800 in 1938.

[5] See also the optimistic statement on the position by Sir Raymond Streat at the Cotton Board Conference in October 1948 (*Board of Trade Journal* 30/10/48).

The number of juveniles in spinning has increased steadily from 7,860 at July 1948 to 8,890 at March, 1949. In weaving the numbers have increased from 7,670 at September 1948, to 7,920 at March 1949. But in Doubling there has been a fall of 2,650 at September 1948 to 2,420 at March, 1949.[1]

3. JUVENILES AND ADULTS

How far does the distribution of the juvenile labour force between industries approximate to the distribution of all insured workers ? An answer to this question may throw some light on problems which it is difficult to answer directly. For example, in view of the paucity of information on the occupations of juveniles, it is important when considering the future perspective to gather what information we can on the relative importance of juvenile labour to different industries, and the possibility of finding substitutes for jobs previously done by juveniles (or of abolishing such jobs). Moreover, a survey of the changes in the size of the juvenile labour force related to the adult labour force between 1938 and 1947 may help to suggest to what extent future prospects influence juveniles in their choice of occupation, and how widespread blind-alley employment remains in a period of labour shortage.

As a measure of the relation between juveniles and adults we use the insured juveniles expressed as a percentage of the total insured workers in an industry. In all industries and services juveniles constituted 13.9 per cent of the insured labour force in 1938 and 10.8 per cent in 1947. Regarding these as the weighted averages of the percentages in individual industries we find the following measures of dispersal :

	Average	*Standard Deviation*	*Coefficient of Variation*
1938	13.9	6.8	48.9
1947	10.8	6.5	60.2

Thus the dispersal is considerably greater in 1947 than in 1938 (*i.e.* distribution of juveniles is less closely connected with distribution of adults). The way in which the distribution of percentages has changed is illustrated by the following :

TABLE VII

Industries classified according to Percentage of Insured Juveniles to Total Insured

Year %	0–4	5–9	10–14	15–19	20+	Total
1935	13	20	29	21	20	103
1938	10	23	35	18	25	111
1943	6	23	31	30	23	113
1945	8	25	35	23	22	113
1947	18	33	34	19	10	114

It is apparent from this Table that there has been a big downward movement between 1938 and 1947, the majority of the changes taking place between 1945 and 1947 (with the return of adult workers from the forces).

Table VIII shows the number and proportion of juveniles in the industries with the highest percentage of juveniles in 1938 and 1947. In 1938 those with the highest proportion of juveniles to total insured labour force were, for the most part, clothing and textile, light consumer good and service industries.

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[1] Cotton Board *Trade Letter*, July 1949.

TABLE VIII

Industries with the highest percentage of juveniles in 1938 and 1947 in Great Britain. (Insured aged 14–17 as percentage of all insured in each industry). Thousands.

July 1938

Industry	Juveniles No. 000's	%
25% or more		
Toys, games, sports' req.	6.0	28.6
Cardbd. boxes, paper bags and stationery	23.2	28.2
Laundry service	48.0	28.1
Job dyeg., dry cleaning, etc.	9.5	27.6
Wood boxes and packg. cases	3.5	26.8
Shirts, collars and undercloth.	26.8	26.7
Sugar, cocoa, choc. and confec.	24.1	26.6
Dress ind. not sep. spec.	8.4	25.6
Linen	3.7	25.6
Leather goods	7.6	25.3
20–24%		
Sci. and photo. instr. and app.	11.2	24.9
Hand tools, cutly., saws, files	8.3	23.4
Textiles not sep. spec.	14.1	23.2
Stationery and type. requ.	2.8	23.0
Hemp, rope, cord, etc.	4.2	22.5
Dressmaking and millinery	26.0	22.5
Brushes and brooms	2.9	22.2
Tobacco	9.6	22.2
Tailoring	51.8	22.0
Woodwork not sep. spec.	5.9	21.8
Distributive trades	495.2	21.7
Bolts, nuts, screws, rivets, rails, etc.	6.9	21.7
Electric. wirg. and contr.	9.7	21.4
Carpets	7.3	21.1
Hosiery	27.4	21.0
17.5–19%		
Electric. engineering	25.3	19.9
Carriages, carts, etc.	2.8	19.9
Printg., publ. and bookbg.	62.4	19.9
Metal ind. not sep. spec.	56.7	19.5
Bread, biscuits, cakes, etc.	36.6	19.4
Furn. makg., upholster. etc.	30.6	18.9
Wallpaper making	1.5	18.8
Boots, shoes, etc.	27.3	18.6
Pottery, earthenware, etc.	14.9	18.4
Watches, clocks, plate, jewel. etc.	7.8	18.1
Electric. cable, app., lamps, etc.	34.3	17.8

July 1947

Industry	Juveniles No. 000's	%
25% or more		
Dressmakg. and Milliny.	23.3	28.8
Shirts, collars, undercloth.	17.9	27.8
Electric. wirg. and contrg.	16.0	27.2
Dress ind. not sep. spec.	6.1	26.7
20–24%		
Toys, games, sports requ.	4.9	22.6
Brushes, brooms	3.5	22.1
Cardbd. boxes, paper bags and stationery	12.9	21.7
Tailoring	45.1	20.9
Hosiery	16.7	20.7
Sugar, cocoa, choc. and confec.	10.7	20.6
15–19 %		
Leather goods	4.9	19.5
Carpets	3.7	19.5
Hemp, rope, cord, etc.	3.2	19.5
Distributive trades	334.0	18.9
Wood boxes and packg. cases	2.9	18.5
Stationery and type. requ.	2.0	18.4
Services not sep. spec.	20.3	18.3
Carriages, carts, etc.	4.6	17.7
Woodworking not sep. spec.	4.6	17.6
Tobacco	7.5	17.5
Printg., publ. and bookbdg.	44.7	17.4
Laundry service	21.7	17.2
Linen	1.6	17.1
Furn. mak., upholster, etc.	18.8	16.0
Silk manu., art. silk weaving	4.2	16.0
Textiles not sep. spec.	9.1	15.7
Bread, biscuits, cakes, etc.	24.6	15.7
Job dyeg., dry cleang., etc.	4.9	15.6
Entertainmts. and sports	25.2	15.0

But they also included Electrical Wiring and Contracting with 21.4 per cent, and 5 engineering and metal groups and Carriages. In 1947 industries with 25 per cent or more juveniles numbered 4 compared with 10 in 1938. Only Shirts, Collars, etc. and Other Dress Industries retained their 1938 position, and Electrical Wiring and Dressmaking moved up into this group, while 5 fell to below 20 per cent. The number with 20–24 per cent of juveniles declined from 15 to 6. Of those that remain in 1947 3 out of the 4 with 25 per cent or over are clothing industries, the other being Electrical Wiring —an industry with an enormous expansion over the whole period (the number of juveniles in it having more than doubled since 1935). Of the 6 with 20–24 per cent, 2 are clothing or textile industries and 4 are light consumer goods industries. Of the 19 with 15–19 per cent, 5 are textile industries, 4 are light consumer goods industries, 5 are services, 3 are wood industries, and the other 2 are Printing and Carriages. Those industries in which 15 per cent or more of the insured labour force consisted of juveniles accounted for 42 per cent of all insured juveniles in 1947; while those industries in which juveniles made up 17.5 per cent or more of the total insured labour force in 1938 accounted for 54 per cent of all juveniles in that year.

Thus it may be the case that there has been some decline in blind-alley employment since 1938. Such employment probably still exists in most of the industries with a high proportion of juveniles[1]. But its extent is difficult to judge. First, in a number of these industries there is an acute shortage of adult labour. Second, one would expect a higher proportion of juveniles in industries where the majority of the adult workers are women and some of the apparent decline in the proportion of the labour force in successive age-groups would be due to voluntary and not involuntary leaving. Before saying more on this question we shall have to look at the sex composition of the juvenile labour force in different industries and the relationship between the proportion of juveniles and the proportion of women in industries.[1]

Age and Sex of Juveniles

Surveying the sex and age composition of the juvenile labour force in different industries, we find that girls were generally predominant in clothing, textile, food and light consumer goods industries and some services, while boys were predominant chiefly in metal, engineering, mining, building, transport and similar industries. The picture is roughly similar in both 1938 and 1947, although the overall increase in the proportion of girls has meant a higher proportion of girls in a number of industries. In the industries in which boys predominated, the older age-group (16–18) was also generally predominant; but the predominance was not so noticeable in industries in which the juvenile labour force was fairly evenly divided between the sexes, or in which girls predominated.

In the majority of the industries with a high proportion of girls among juveniles employed, juveniles were a high proportion of the total labour force. Of the 43 industries in which, in 1938, juveniles constituted 15 per cent or more of the total labour force, 24 were industries in which more than 60 per cent of the juveniles consisted of girls. All of these 24 industries had a proportion of *women* above average; in fact, there is a fairly close association between the proportion of women in an industry and the proportion of girls. The correlation between the proportion of women and the proportion of juveniles in industry is less in 1947 than in 1938 (the correlation coefficient is 0.679 in 1938 and 0.587 in 1947) largely because of the decline in the number of industries with a high proportion of juveniles (those with 15 per cent or over numbering 43 in 1938 and 28 in 1947), while the number with a high proportion of women has remained steady. This would suggest the possibility of substituting women for juveniles in some cases.

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[1] For an analysis of blind-alley employment among boys before the war see *The Juvenile Labour Market*, by J. and S. Jewkes, 1938, Chapter 4.

OCCUPATIONS OF JUVENILES

Judgement on the effect of changes in the juvenile labour force in different industries is difficult without detailed knowledge of the occupations of juveniles. Unfortunately the only comprehensive information comes from the Census of Population and relates to 1931. Doubtless this is much out of date to-day, but it is worth summarising briefly.

Juveniles, especially girls, were concentrated in surprisingly few occupations. The vast majority of girls were textile workers (8 per cent) or textile goods workers (12 per cent). transport and communication workers (2 per cent, the younger ones mainly messengers or telegraph and telephone operators), saleswomen and shop assistants (11 per cent), personal service workers (31 per cent, largely indoor domestic servants—210,000—laundry workers and waitresses), clerks and typists, (11 per cent) and shopkeepers (5 per cent).

Boys were less concentrated in a few occupations; but out of 1,022,000 occupied boys, 142,000 worked as messengers and porters (not railway), 92,000 as salesmen and shop assistants, 66,000 as clerks, draughtsmen and typists, and considerable numbers as van boys, roundsmen and van salesmen and as warehouse and storekeepers' assistants.

Many of these occupations are not progressive, and probably reorganisation could make up for loss of juveniles in such occupations as Messengers, Van Boys, Packers, Shop Workers and Personal Service.

More up-to-date information [1] is very scarce. The *Report of the Committee on Hours of Employment of Juveniles* (*Cmd.* 7664, March 1949) gives estimates by the Ministry of Labour for June 1947 of juveniles employed in occupations outside statutory coverage, which suggest that some 215,000 juveniles were employed in offices; while the 1937 *Report of the Departmental Committee on Hours of Employment of Young Persons* (*Cmd.* 5394) suggested that as many as 125,000 were probably included in its terms of reference (outside statutory coverage), being Van Boys, Errand Boys, Messengers, Porters and Warehouse Boys, Page-boys and Attendants in hotels and entertainment resorts.

The figures of insured workers for July 1948[2] are given on the new

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[1] In Railways the majority of the boys are in the 'conciliation' grades (about ½ in 1947) or 'Shop and Artisan' grades (about ⅓ in 1947), with 10 per cent. in 1947 clerical, etc. (*Railway Staff Returns, 1948*). In coalmining, boys are largely employed in haulage.

[2] For July 1947 the following breakdown of Entertainments and Sports is given :

Theatres, Music Halls, Cinemas, Concerts, etc.	16,460
Sport	1,930
Other Recreations	1,350
Betting	5,460
	25,200

Standard Industrial Classification and give information—previously not available—on employment of juveniles in certain industries and services. About 18,000 juveniles (mostly girls) are estimated to be employed in Private Domestic Service, 18,000 in Postal, Telegraph and Wireless Communication, 24,000 in Motor Repairing and Garages (mostly boys), and 13,000 in Hairdressing (mostly girls). The following details of the Distributive Trades[1] are given for the first time. The retail groups have a much higher proportion of juveniles to all insured than wholesale (the wholesale percentages varying between 7.3 and 9.4 and the retail between 12.6 and 13.6)[2].

TABLE X

Juveniles Employed in the Distributive Trades, July 1948

Distribution of:	*Boys*	*Girls*
Coal, Building Materials and Grain	5,420	4,260
Other Industrial Materials	4,530	3,050
Food and Drink (Wholesale)	6,750	7,190
,, ,, (Retail)	37,190	52,220
Non-Food Goods (Wholesale)	8,500	14,470
,, ,, (Retail)	24,060	83,850
Confectionery, Tobacco and Newspapers (Retail)	1,690	5,780
Total	88,140	170,820

4. CONCLUSIONS AND SUGGESTIONS FOR FURTHER CONSIDERATION

We have seen that there have been considerable changes in the distribution of juvenile labour between industries since 1938, with expansion in the share taken by a few industries, and by construction, transport and 'black-coated' services, and a corresponding contraction in a number of industries, particularly mining, textiles and personal services. We have also seen that there has been a general decline in the proportion of juveniles to adults in industry.

The data we have examined raise a number of important questions, and throw some light on them. In general, however, information is insufficient to reach definite conclusions. We may sum up here the impressions gained of some of these questions.

The future trends in the distribution of juvenile labour cannot be outlined with any certainty. Since the end of the war the pattern of change is by no means definite. In view of the decline in the total number of juveniles available, few industries can hope to maintain a juvenile labour force of the same size as before the war. But a number of industries (mostly the 'first preference' industries of the Ministry of Labour) have a long way to go before they obtain their pre-war *share* of juvenile labour. It is difficult to say to what extent the individual industries will suffer from the shortage, without more information than is available on the occupations of juveniles within those industries. Such information on occupations as we have been able to gather suggests that juveniles were used to varying extents on jobs which could be abolished by better organisation, or in which other labour or machinery could be substituted. Most of the Working Party and other reports on these industries suggest that both juvenile and adult labour was wastefully used before the war, and that with the increase in productivity achieved by reorganisation and improved plant a smaller labour force could attain or surpass the pre-war output level.

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[1] Home Office statistics for 1937 (quoted in Hallsworth, *Protective Legislation for Shop and Office Employees*, 1939) show that 77,000 *children* aged 12 and 13 were employed in England and Wales outside school hours, the vast majority of them in Delivery of Newspapers, Milk, and Goods and Parcels.

[2] These should not be compared with percentages quoted earlier, because of changes in the scope of insurance.

The decline in the juvenile labour force in an industry which has always relied heavily on juvenile cheap labour will certainly require considerable adjustment ; but the adjustment may well be easier than for industries in which juveniles constituted only a small proportion of the labour force, but in which they were being trained for adult occupations.[1] In some industries which relied heavily on juvenile labour, it may be possible to substitute for juveniles women, old people near or over retiring age, or machinery, or even to eliminate the tasks juveniles were performing (*e.g.* of the ' fetch and carry ' type) by re-organisation of work and redeployment of labour. For example the following statement concerning the confectionary industry, which relies heavily on juveniles, is of interest. In *Education in Industry*, published by Bournville Publications, Ltd., it is said that ' experience is showing that machines can eliminate a great deal of repetitive work . . . in consequence the proportion of skilled to unskilled work is increasing at Bournville '. And in a Memorandum to the Cotton Working Party[2] Messrs. F. McKay and E. M. Gray, of the Cotton Board, had this to say : ' The industry was formerly prodigal in its use of juveniles when in most districts it had practically a monopoly of them. There was blind-alley work which better labour organisation could have reduced, and juvenile labour wastage which need never have occurred with sound personnel management and after-care of the juvenile entrants. That monopoly no longer exists. . . . There will be a famine in juveniles, and the cotton industry, now having to compete for them with other industries, will, in our opinion, have to do three things to meet the situation : (*a*) use fewer juveniles relatively to adults, (*b*) introduce attractive working conditions, employee services and training facilities, etc., (*c*) reduce juvenile labour wastage.'

Where a shortage of juvenile labour prompts reorganisation of this kind, it is to be welcomed. Even in the Distributive Trades this may have application; the experience of the Co-operative Societies shows that blind-alley employment is not a necessity.[3] Where the problem is serious, it may in many cases be so for economic reasons (increased costs) rather than technical. The shortage of juvenile labour has prompted, since the war, a considerable revival of apprenticeship arrangements,[1] though the extent to which they are practised is not known and formal (indentured) apprenticeship does not seem to be widely practised even in Building[2] or Engineering.

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[1] For example the heavier industries, railways, etc. Even in some of these, however, where the juveniles were mostly boys, there was often blind-alley employment before the war, for example in coal mining with a proportion of juveniles of 7.4 in 1935 (see G. Meara, *Juvenile Unemployment in South Wales*, 1936).

[2] *Report*, 1946, p. 57.

[3] See Charles and Morgan in *Political Arithmetic*, p. 483 ; Gollan, *Youth in British Industry*, p. 143.

Even with these and other factors taken into account (for example the effect of the change in the character and sex composition of the adult labour force on the number of juveniles required), it seems probable that some industries—particularly textiles and coal—will require a big increase in their rate of recruitment.

This brings forward a number of questions as requiring investigation, in particular, what industries could suffer a contraction of their present juvenile labour force without too many harmful effects, what factors are playing a predominant part in determining the present choice of juveniles as to the industry they shall enter, and whether the machinery for guiding recruitment is adequate.

On the first of these questions, manpower targets have been put forward in the *Economic Surveys* which suggest the possibility of contracting the labour force in distribution and public administration, and we have seen that there has already been a check in recruitment to building (there seems here to be a confusion between government manpower and investment policy and the policy of the Building Apprenticeship Council). More than this it is difficult to say, because of, once again, lack of information on the occupations of juveniles.

On the second question, of the determinants of recruitment, only a general answer appears possible without a field survey. The 1948 *Report of the London Regional Advisory Council for Youth Employment* states that the influence of parents was marked, and that the main incentive appeared to be high wages. In determining the parents' outlook the whole history of an industry may have its influence. A number of the Working Party Reports point to the employment record of industries as having considerable influence over parents; while others refer also to conditions of work. On the Mining Industry,[3] the Forster Committee, mentioning these and other factors, referred also to the wider choice of occupation made available to youth in mining areas by the development of transport. Finally, career prospects doubtless have their influence (there has usually been an inverse relationship between training and prospects offered and wages). The London Report refers to the frustration of young workers because of the call-up and its effects on the attitude of employers.

The recruitment machinery has been improved by the Employment and Training Act of 1948; but the youth employment service is designed rather as a system of vocational guidance than as an instrument of a national manpower policy. A few industries have had their own recruitment campaigns

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[1] Details of these schemes are given from time to time in the *Ministry of Labour Gazette.*

[2] See the Special Report of the Building Apprenticeship and Training Council, *Building Apprenticeship—Recruitment and Training, Nov.* 1948 .

[3] Committee on the Recruitment of Juveniles in the Coal Mining Industry, First Report, 1942.

(the campaigns of the Coal Board and the Cotton Board are examples) some of which have had some success. Apart from direction, further steps would have to be along the lines of changing conditions and wages and persuading both juveniles and parents that they were changing.

On the possibilities of substitution we have been able to say little, except that substitution of both machinery and other forms of labour may be possible in many cases. With the shortage of juveniles which will be with us for some years, and given full employment, the available juveniles must be used as far as possible as trainees for skilled and semi-skilled adult jobs. We have mentioned the schemes for apprenticeship developed. If these are to be carried out, a big development of technical education will be necessary (for example, if the Building Apprenticeship Council's target of 22,000 apprentices a year was achieved there would be a big shortage of places in the schools for the one-day-a-week training laid down in the apprenticeship agreement). And in many industries, particularly those with numerous small firms, careful organisation will be needed if places are to be found for juveniles where adequate training is available; while confidence in the future will be essential if firms are to take the responsibility of providing indentured apprenticeships.

R. GODSON.

CAPITAL MOVEMENTS, THE TERMS OF TRADE AND THE BALANCE OF PAYMENTS

We discussed in a previous article some of the factors which in the period 1870–1938 operated on changes in the terms of trade of various countries. A number of problems were left open, however, among them the influence of capital movements. This forms the subject of the present article.

If the response of the terms of trade to changes in the flow of capital is studied on a world-wide scale, attention is focussed on the price relationships in the trade between groups of countries: debtors and creditors or primary producing and industrial nations. Colin Clark has drawn the conclusion from the available material that 'a period of active international lending on the part of industrial countries is associated with terms of trade beneficial to primary producers, and *vice versa*'.[1] This is a useful generalisation which contains a large measure of historical truth. But the connection established by Colin Clark does not hold in all periods. The closeness of the connection depends on the direction and character of the investment expenditures (no matter whether home financed or foreign financed), as well as on the gestation period. We are not, however, concerned with this global aspect which can be analysed along the lines of our first article. The purpose here is to comment on the balance of payments effects of capital movements, and to trace in two representative cases the connection between trade flows and capital flows.

A great deal of work has been done in this field, usually with the intention of testing the neo-classical theory of capital transfers. Viner's analysis of the Canadian development from 1900–1913 is still the most penetrating of these studies. He found that the improvement in the Canadian terms of trade was an important *part* of the sequence which translated the large capital imports from Britain into a surplus of commodity imports: the transfer in liquid form of a portion of the loans, and the consequent increase in aggregate expenditure on Canadian goods (as compared, in this case, with expenditure on British goods) resulted in a relative rise in costs of production and restricted exports as compared with imports. Viner regards this generally as a probable outcome of capital flows—provided that these flows are steady and that adjustments have time to work out uninterrupted by other, *e.g* cyclical, disturbances. It is hardly surprising that there are only few historical cases where comparable sequences can be traced. Most case studies have been inconclusive, or have shown that the terms of trade, without harm to the transfer process, can change in either direction or remain unchanged when capital movements occur. To prove this once more would be merely tedious.

In what follows we shall mainly concentrate on British and American lending. Britain and the United States were at different periods the principal exporters of capital, and a study of these periods—the one before 1914, and the other in the '20's—can tell us a good deal about the connection between trade flows and capital flows. The balance of payments of both countries showed in these periods an approximate equilibrium, in the sense that there were no large and continuing net movements of gold and of short-term funds. In both cases the 'Viner reaction' was absent: adjustment to the capital flows was not based on the response of the trade balance to changes in the terms of trade. But our main interest lies less in this than in certain differences which distinguish the American from the British case. A statement of these differences will lead up to a few concluding remarks of a more general nature on the function of foreign investment and the requirements of balance of payments equilibrium.

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[1] Colin Clark, *Conditions of Economic Progress*, p. 466.

BRITAIN AND THE UNITED STATES AS LENDERS

The major changes in the British balance of payments from about 1870 to 1914 may be summarised very briefly as follows. Britain's 'normal' trade deficit increased in the course of this period, at any rate up to 1904; at the same time income from foreign investment and net service income (mainly shipping) both expanded strongly, with the result that the total surplus on current account increased, if we take the period as a whole. The main increase occurred after the turn of the century. If we group visible trade and service income together—for our conclusions a more significant grouping—we find that this 'combined trading account', which had been positive at the beginning of the '70s, was from then on always negative, and that the deficit on this account was growing except in the last decade. The foreign balance available for deliberate lending was the excess of income from foreign investment over the deficit on the combined trading account. This balance seems to have provided at the end of our period some 40–50 per cent of the total 'offsets to saving'.[1]

The trading account—in contrast to income from foreign investment—was subject to fairly strong cyclical variations. Changes in net service income and in the balance of visible trade were on the whole positively correlated with the cycle in business activity. The correlation was quite marked with regard to invisible income. The two factors involved in the balance of visible trade—changes in the volume and the price of exports relatively to imports—worked out in a less regular fashion, but generally displayed a similar tendency.[2] That is, export volumes expanded or contracted relatively to imports when British and world activity increased or fell.[5] Nearly the whole long-run increase in the volume of British exports from 1870 to 1913 was accounted for by the expansion which occurred in times of prosperity, whereas imports increased throughout with little interruption. As to changes in price ratios, we know that the terms of trade in their yearly variations usually improved in prosperity, especially at the end of a major upswing, and worsened in a depression. If we take the years 1870 to 1913, the combined effect of these cyclical changes in volumes and in relative prices was that the normal deficit in the British balance of visible trade declined in 4 out of 6 prosperity periods, and increased in 4 out of 5 depressions. The sharp alteration in the total foreign balance reflected these changes on trading account.

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[1] For an interpretation of this ratio see our conclusions.

[2] In most trade cycles exports had a time lead over home expansion. Cf. the article in this BULLETIN, November 1948.

[3] Cyclical changes in Britain and in the rest of the world were generally in the same direction (see later) though, of course, there were leads and lags and differences in amplitudes from country to country.

How were spontaneous or deliberate capital exports connected with these sequences, and how was equilibrium maintained without recourse to large gold movements and without other monetary disturbances ? There are two or three points here. First, we are historically on safe ground in saying that the flow of British capital for investment and trading abroad—mainly long-term lending—played a very important role in initiating the changes in the other items of the British balance of payments. An expansion in world activity as well as in British trade was typically started off when good harvests abroad (or other circumstances) raised profit expectations and induced railway construction and similar investment projects in developing countries.[1] These countries, in expansion, had a high demand for British goods, so that development loans to them soon gave rise to a growing export income in Britain. The trade balance improved with the increase in exports to borrowing countries, which usually preceded the increase in total exports.[2] Now in view of the great weight of international transactions in the British economy, an alteration of the foreign balance was bound to have a very considerable influence on home activity, and hence on import demands. In the course of an upswing, investment at home—export-induced and income-induced—very regularly increased relatively to investment abroad, and *vice versa*.[3] This was an important aspect of the adjustment process : a rise in exports directly set in train strong movements in the home economy which enlarged the supply of sterling on trading account. A growing foreign income accrued over time only through rising dividend and interest receipts from abroad; these were partly consumed in the form of an import surplus (with respect to goods and services combined), and for the rest fully lent out.

This leads us to the last point. There is evidence[4] that long-term lending during the trade cycle expanded and contracted more strongly than the current account balance. Thus the technical situation, for short periods at any rate, was typically very similar to that described in the classical model,[1] where an outflow of capital disturbs the equilibrium and calls for adjustments through changes in relative prices. In actual fact such short-run disturbances were rectified in the British case through offsetting movements of short-term capital which, however, did not merely close the gap as a temporary substitute for gold flows, but actually fetched in gold in the upswing and carried it away in the depression.[2] This was brought about by changes in the short-term rates of interest. An excess of spontaneous lending over the balance on current account would tend to drive up short-term interest rates (relatively to the world level), and it seems that the Bank of England in times of expansion systematically used the discount rate technique, not in order to curb expansion (and certainly not to squeeze out higher exports by deflating prices), but in order to call in funds from the periphery and to continue expansion. The position of the London money market was such that a relative rise in the London rate, too small to affect domestic trade activity, was sufficient to attract balances from abroad which brought gold in their wake. The tight monetary position which rigid reserve requirements created in a major expansion, particularly when foreign lending was ' excessive ', was thus relieved by temporary additions to the monetary stock which adjusted the liquidity position to the ruling cyclical phase *and to the price level associated with it.*

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[1] Speculative building (or collapses) in one area quickly spread to others owing to the concentration of financing in London.

[2] Cf. K. Zweig, Strukturwandlungen und Konjunkturschwingungen im englischen Aussenhandel der Vorkriegszeit. *Weltwirtschaftliches Archiv*, Band XXX (1929).

[3] Measured by comparing changes in new issues of home securities with changes in flotations corresponding to investment in other countries. Annual figures of new issues are available from 1880 on, quarterly figures from 1898. Although these data are not absolutely conclusive, they do seem to support the statement in the text, except for the years 1890–1892. Cf. K. Zweig's analysis, l.c.

[4] Cf. W. Edwards Beach, British International Gold Movements and Banking Policy, 1881–1913. Also B. Whale's comments in : The Working of the Pre-War Gold Standard, *Economica*, 1937, and in : International Short-Term Capital Movements, *Economica*, 1939.

Changes in relative prices and in terms of trade played no role in this process as a causal factor (helping to adjust trade flows to capital flows). The terms of trade in fact altered in a heterodox manner judged by neo-classical yardsticks;[3] they were determined by the historically given elasticities of supply[4] and were merely incidental to the process of adjustment. The smooth working of this process rested mainly on the strong influence which one and the same factor—changes in the willingness of capitalists to acquire foreign assets—had on incomes and import demands of the borrowing countries *as well as of the lending country.*

We should expect very different sequences where foreign trade and home trade are less closely connected. As an outstanding example we shall take American lending in the 'twenties, a period when the United States was the largest net exporter of capital.

U.S. long-term loans and remittances (*i.e.* gifts) between them were very nearly equal in this period to the U.S. balance of payments surplus, to which the trading account as well as income from foreign investment contributed. The outflow of long-term capital, however, varied considerably from year to year; two rather sharp upward and downward movements occurred before 1929, and there was a clear tendency for parallel changes in the trade balance. What was the link between these alterations in long-term lending and in commodity trade? Since gold tended to flow out (or to flow in at a reduced rate) when more capital was invested abroad, and *vice versa*, there is a presumption that adjustment between the two balances operated along classical lines. But a detailed analysis[1] does not bear out this hypothesis which, in any case, would be unconvincing in view of the relatively small importance of international transactions in the U.S. economy: disturbances in the balance of payments could not be expected—certainly not in the short run—to induce corrective internal changes strong enough to offset other much more important domestic influences. In fact, the gold movements of the 'twenties had no measurable effects on the U.S. economy, nor do the terms of trade tests give positive results. Alternatively there might have been a strong direct connection between U.S. investment abroad and U.S. exports,[2] but again there is little evidence for this. The statistics of commodity exports and imports show that the annual fluctuations of the trade balance were chiefly determined by the fluctuations in imports, an indication that developments within the United States (and not, as is theoretically possible in other countries), must have been mainly responsible for the alterations of the trade balance. Bloomfield's explanation is that U.S. foreign trade and long term lending, without acting strongly on each other (directly or indirectly), responded in a similar manner to fluctuations of the U.S. economy. In contrast to the British case the changes in these balances were inversely related to the U.S. business cycle. Given the fact that in the 'twenties the fluctuations in the United States were wider than outside,[3] an expansion or contraction in the United States caused imports to rise or to fall relatively to exports. In this respect the evidence of the 'twenties is very much in line with experience over long periods going back to the 19th century, and showing that imports rather than exports correlate with U.S. business activity. As to long-term lending, Bloomfield advances with great caution the hypothesis that the decline in U.S. capital exports in many years of rising activity, and *vice versa*, may also be attributed to the relatively greater intensity of the U.S. trade cycle: in years of prosperity investment at home appeared more attractive than investment abroad. But this remains a conjecture. Sheer accident, or the fact that the bulk of the foreign flotations in the United States were bonds—which in boom years sell less well—may have played an important role. And, in any case, in whatever way the business cycle *per se* affected the *direction* of change in U.S. lending, the *magnitude* of change, which is a crucial point, cannot be explained by Bloomfield's cyclical hypothesis (as he himself emphasises). Thus in the last instance the balancing of the U.S. international accounts appears to have been largely fortuitous.

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[1] With one important qualification : capital exports are unlikely to have involved an initial reduction in the amounts available for expenditure in the lending country. Rather they represented in the initial stage shifts from domestic securities (incl. money) into foreign securities which had no effect on home expenditure except, theoretically, through the rate of interest. The same applied as a rule to abnormal capital movements, though in extreme cases of capital flights the situation may have been different.

[2] In other words : capital exports and gold inflows went together whereas in the classical model they are inversely related to each other.

[3] Taussig or Viner's analysis was of course not primarily concerned with short run cyclical changes, though Viner refers to their possibly ' paradoxical ' effects. Cf. Studies in the Theory of International Trade, pp. 434–435.

[4] Under this heading come, among other things, the long period effects of British investment abroad on the cost of imports.

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[1] Cf. Arthus I. Bloomfield, The Mechanism of Adjustment of the American Balance of Payments, 1919–1929. *American Economic Review*, May 1943.

[2] Either because loans were tied or because exports benefited directly from the income effects abroad of U.S. lending.

[3] See also p. 12, footnote 2, of this article.

This conclusion may have general validity, beyond the 'twenties, unless we think of periods long enough for secular adjustment (see later). This follows from the relatively small degree of interdependence between U.S. foreign trade and home trade. The willingness of savers to lend out their capital abroad depends on a large number of circumstances. But whereas in the British case changes in these decisions had a strong influence on all other items of the balance of payments, in the American case these other items chiefly depend on the state of domestic trade, and this is but little affected by alterations in the foreign balance that may result from changes in spontaneous lending. In the 'twenties when U.S. lending was at its maximum, the foreign balance contributed hardly more than 3 per cent to total investment.[1]

A short reference to the conditions in the 'thirties may serve as an illustration. That the dollar shortage, in the form in which it appeared in these years, had nothing to do with the failure of the normal adjustment process is, of course, clear; the direct cause was the large movement of flight capital into the United States from 1934–1939.[2] But let us assume that these hot money flows had not occurred. What would have happened to the supply of dollars ? Economic activity in the 'thirties was expanding less strongly in the United States than in the rest of the world. It is almost certain that this development would have been associated, under normal conditions, with a rising American export surplus;[3] as it was, this surplus was kept down *because of* the dollar shortage: the capital flight had necessitated restrictive measures primarily directed against American exports. On our assumptions —no hot money flows and no new trade restrictions—equilibrium would have depended on whether or not American savers would have been willing to lend out abroad at the rate required by a higher balance. They might have done so, or they might not.

It would be quite illegitimate, however, to break off the argument at this point when the fortuitous character of U.S. balance of payments equilibrium

[1] Cf. M. Ezekiel, Statistical Investigations of Saving, Consumption, and Investment. I. *American Economic Review*, 1942, p. 27.

[2] More precisely : as the flight capital was kept liquid in the U.S. banking system and did not stimulate U.S. expenditure and incomes, a dollar shortage was bound to occur given the refusal of the capital losing countries to deflate. Alternatively there was the—rather theoretical—possibility of capital transfer through progressive exchange depreciation. On this last point see the remarks in R. Nurkse, International Currency Experience, pp. 119–121, and A. J. Brown's theoretical analysis of Trade Balances and Exchange Stability, *Oxford Economic Papers*, April, 1942.

[3] The reason is that the income elasticity of the U.S. import demand was about unity in the inter-war period, whereas the income elasticity of U.S. exports was about 1.5 Short-run price elasticities were low. In consequence, an expansion in non-American business activity of the *same* (or greater) magnitude as in American activity would have led to a rise in U.S. commodity exports relatively to imports, except for trade restrictions. Cf. I. H. Adler, The American Import Demand in the Inter-War Period, *American Economic Review*, June, 1945 ; and The Post-War Demand for U.S. Exports, *Review of Economic Statistics*, February, 1946. Also R. Hinshaw, American Prosperity and the British Balance of Payments, *Review of Economic Statistics*, 1945.

stands out in sharp contrast to the self-correcting tendencies in the British case. The description of the American development in the 'twenties was confined to short run tendencies. Important though these are, the picture may look differently if we take a longer view. Are there not factors making for secular adjustment, and what does secular adjustment demand ? The following section is devoted to these questions.

' LONG-RUN EQUILIBRIUM '

If a country lends out on long term the whole of its surplus on current account, no liquidity problems arise. It does not matter then whether the trading account is positive or negative, *i.e.* whether the country has an export surplus or an import surplus with regard to current output of goods and services. Of course, a permanent export surplus on trading account, when lent out, leads to a continuing increase of the total foreign balance and of the required rate of lending. As there is no mechanism which could assure spontaneous lending at this growing rate, year by year, periodic disturbances are bound to occur. Secular adjustment in the conventional analysis therefore demands that creditor countries ultimately import more goods and services than they export—the safest and perhaps the only feasible way of preventing the emergence of unmanageable surpluses. We have nothing to add to this argument. But the conventional analysis—whether classical or otherwise—also invokes the inflationary effects of a continuous export surplus in the creditor country to prove that this state of affairs cannot last: the export surplus of itself will set up tendencies towards secular adjustment. In an international economy where there is lending this view requires some reconsideration.

Assume that a country has an export surplus which provides work for a certain proportion of the labour force. Employment, supported by the positive trade balance, is ' full ' or ' high ', and we stipulate that this surplus —which is kept constant—as well as income from foreign investment are lent out on long term. What would happen if this state of affairs continued over long periods ? By assumption foreign assests are acquired as fast as interest receipts from abroad rise. This accumulation of foreign property surely does not affect home output, or prices, of goods and services; aggregate (home and foreign) expenditure on current output remains unchanged.[1] The constant surplus of the combined trading account merely maintains employment and demand at their initial level. Thus the state of the home economy is undisturbed by the continuous rise in the foreign balance; nor is there a change abroad except in ownership. The situation would be different only if the rise in the total balance were due in part to a further increase in merchandise or service exports relatively to imports. In whatever way these additional exports are financed, even if they were given away by gifts, the effect on the home economy would be expansionary. In our case, however, all that is likely to happen from time to time is a disturbance of international liquidity whenever deliberate lending falls short of the required rate. But insufficient lending of itself does not set up a self-correcting tendency towards secular adjustment. The result might equally well be a cycle of the type described by Samuelson.[1]

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[1] Of course one could say that interest payments of foreigners give direct employment to a home factor of production : to ' waiting '. This way of looking at it may be quite adequate for purposes of social accounting, but it obscures the analysis of the problem in hand.

For a gradual decline of the trade balance—*i.e.* for ' secular adjustment ' —to come about in a creditor country, a fall in the savings ratio is essential. Assume that income from property abroad is spent on goods and services instead of being used for the acquisition of still more foreign assets. The position then would change in the creditor country: exports would be reduced and/or imports increased, either because of an induced rise in the home price level, or because of higher purchases, at constant prices, of imports and of domestic goods formerly exported. The trade balance would decline, while employment would remain stable, unaffected by the higher propensity to import which would be associated with a lower propensity to save.[2] Naturally, this increase in the spending function, which is the condition of secular adjustment, cannot in reality be traced back to a particular group of income recipients. It would be quite artificial to stipulate that those who own property abroad would have to initiate this process.[3] But it still remains true that alterations in the various partial balances of payments have very different effects: a surplus on trading account, whether lent out on long term or not, increases home output to an extent measured by the export surplus itself *and* by the induced effects on consumption and investment (' repercussion effects '), whereas interest receipts from abroad have no such influence when lent out, but have ' repercussion effects ' when retained and spent.[4]

We may conclude with two short applications of this analysis. The first concerns the function of British investment abroad during the period which we have reviewed. The combined trading account was negative throughout, and all surpluses were ' consolidated ' in the form of long-term loans. It follows that the *foreign balance, though it was positive, made at no time a net contribution to home employment.* True, *changes* in the total balance had a very strong influence on *changes* in the level of activity. But at any given time foreign investment exclusively served to increase productivity abroad and to widen the basis for higher consumption at home.

[1] A cycle where high lending leads to financial collapse, when the creditors ' get tired of the game ', to be followed after renewal of confidence, by the same process. Cf. P. Samuelson, Disparity in Post-War Exchange Rates, in: *Foreign Economic Policy for the United States* (ed. S. Harris).

[2] Cf. R. Hinshaw's interesting analysis of Foreign Investment and American Employment. *American Economic Review, Supplement*, May 1946.

[3] Rather one should say that a community can receive a steadily growing income from foreign investment only in the form of paper claims unless there is an increase in the spending function.

[4] In other words: we regard interest payments from abroad as a sort of international transfer payment or tribute, and describe their effects in a way which is similar to A. Smithies' analysis of the ' mechanics of fiscal policy '. Cf. his article on ' Federal Budgeting in *A Survey of Contemporary Economics* ' (ed. H. Ellis).

In contrast to this, U.S. foreign investment from the first World War on has always been a factor giving support to domestic employment. But U.S. income from foreign investment has not shown any growth since the 'twenties. For about a generation the United States has given away a good part of its export surpluses by intentional and unintentional gifts (defaulted loans). This state of affairs might conceivably go on over long periods; it is bound to continue on some scale until internal adjustments are carried out in the United States[1]. The question is what kind of internal developments would be needed. It is frequently held that the secular growth of U.S. real income would of itself secure adjustment by raising U.S. import demands (particularly with respect to raw materials).[2] This expectation is hardly warranted. The growth of U.S. productive power, in the past at any rate, increased the level of exports as well as of imports.[3] Moreover, if the U.S. trade balance *did* decline substantially as a result of higher competitiveness of foreign producers, while other things remained equal, U.S. employment would fall, and this would hardly improve matters.[4] It is decisive, therefore, that internal developments take place in the United States which *at each level of income induce higher imports*, relatively to exports, *at the expense of savings*.

We cannot say whether there are strong tendencies towards an increase in the spending function in the United States. But it is possible to give at least a rough indication of the order of magnitude of the problem, if it is posed as a matter of internal adjustment. The U.S. foreign balance is very large from the point of view of international liquidity. But it is a minor factor as a prop to home employment. For the year 1939 we have Leontief's calculation showing that the export surplus (which by pre-war standards was quite substantial in 1939)[5] gave primary and secondary employment to less than one per cent of the labour force employed in all sectors of the U.S. economy.[6] [7]. At present this proportion no doubt is very much higher because the U.S. export surplus on trading account has risen steeply relatively to total investment. We do not venture to give an estimate of its employment content, which would be the more difficult as changes in the structure of industry as well as in the terms of trade would have to be allowed for. But the data which we have for the inter-war period, and their rough comparison with the present position, are sufficient to support the statement that the difficulties of internal adjustment—though very considerable in the face of short-run cyclical disturbances—should be manageable over a longer period given some measure of Government intervention.

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[1] Adjustments in the debtor countries are not here our concern.

[2] For a representative expression of this view cf. Hal B. Lary, the Domestic Effects of Foreign Investment, *American Economic Review, Supplement*, May 1946, p. 681.

[3] Rising U.S. imports also increase the *demand* for U.S. goods because U.S. imports are an important determinant of foreign incomes. This is the main basis of Kindleberger's statement ' that it may be doubted that increased U.S. imports would correct for long the world shortage of dollars '. Cf. Ch. P. Kindleberger, Monetary Stabilization, in *Post War Economic Problems* (ed. S. E. Harris), p. 387.

[4] It is irrelevant here whether the competitive success of non-American producers would rest on tariff reductions in the United States, on exchange rate variations or on productivity gains.

[5] The ratio of export surplus to total investment was, if anything, higher in 1939 than on the average of the 'twenties, and as high in 1939 as in many years of better employment. But the terms of trade were more favourable in 1939 than in the 'twenties (average) and there is a presumption, therefore, that the export surplus may have given more employment in the earlier period.

[6] Primary employment is defined by Leontief as employment ' directly and indirectly derived from the given (export surplus) on the basis of existing inter-industrial relationships '. Secondary employment is employment ' directly and indirectly dependent upon the additional household demand resulting—via the income flow—from the higher level of primary employment '. Cf. W. W. Leontief, Exports, Imports, Domestic Output and Employment. *Quarterly Journal of Economics*, February, 1946.

[7] Leontief's figure for employment dependent on exports (instead of on the export *surplus*) is 10 per cent for 1939. One could make a case for using this calculation rather than the other.

K. MARTIN.

TABULAR APPENDIX.

EDITORIAL NOTE

Tables comparing the broad trends of production, prices and wages, the volume of foreign trade and the supply of coal for a number of European countries, the United Kingdom and the U.S.A. are given below. For some countries more up-to-date figures are available than for others. The index numbers are based as far as possible on 1938.

Explanation of symbols : ... the figure is not available.

(—) figures provisional or approximate. — figure is negligible.

TABLE I. *Industrial Production (or Employment)*

Index Numbers 1938=100

	Monthly Averages					1949				
Index Number	1939	1945	1946	1947	1948	Mar.	Apr.	May	June	July
Industrial Production[1]										
U.S.A.[2]	122	228	191	210	216	207	201	195	190	(182)
United Kingdom[3] [4]	104[17]	...	100	108	121	131	124	134	(129)	...
France[4]	...	...	79	95	109	128	(128)	132[12]	131	(120)
Belgium[5]	95	...	...	96	103	111	107	...	...	...
Netherlands ...	111	32	74	94	113	128	120	125	122	...
Denmark (rev.) ...	105	74	101	116	129	138	124	135	136	(106)
Sweden[6]	109	112	135	138	143	146	147	146	...	...
Norway[4]	107	69	100	115	125	141	(139)	(144)	(140)	(92)
Finland[7]	97	86	105	117	135	140	...	...	...	...
Poland[8]	...	...	91	121	153	169	163	170	...	...
Czechoslovakia[9] ...	...	...	...	87	103	108	109	...	112	(100)
Bulgaria[10]	100	112	115	137	...	...	...	...	...	...
Italy[11]	...	...	...	93	98	98	95	(111)	...	...
Germany[16] ...	...	...	33	40	60	90	82	88	(85)	...
Austria[13]	...	...	...	61	93	112	116	126	(128)	...
Industrial Employment :										
Switzerland[14] ...	98	110	123	134	136	130	...	...	(128)	...
Great Britain ...	...	...	...	...	100[15]	102	102	102	102	...

Sources : Official Statistics. For *Belgium* : Institut de Recherches Economiques et Sociales, Louvain ; for *Sweden* : Sveriges Industriförbund ; for *Germany* : Control Commission (British Element) ; for *Austria* : Monatsberichte des Oest. Institutes für Wirtschaftsforschung.

[1] Mining and Manufacturing, except Denmark (manufacturing only), France and Netherlands (mining, manufacturing and public utilities) ; see also Notes 3 and 16.

[2] Adjusted for seasonal variations.

[3] Interim Index of industrial production (mining, manufacturing, building and public utilities) 1946=100.

[4] Adjusted for number of working days.

[5] Revised Index (l'Institut de Recherches Economiques et Sociales, Louvain), 1936–1938=100.

[6] Annual Index of Kommerskollegium linked to monthly index of Sveriges Industriförbund. Adjusted for seasonal variations and for numbers of working days.

[7] New series as published quarterly by Kansallis-Osake-Pankki. Covers mining, manufacturing, electricity, gas. Annual index as published by Finnish Government. Similar scope to quarterly index. Quarterly indices adjusted by U.N. Monthly Bulletin so that average equals annual index.

[8] Institute for Economic Research. Annual indices include the production of sugar which is not included in monthly indices.

[9] Provisional index (revised) 1937=100.

[10] 1939=100.

[11] Same series as April BULLETIN, as re-based on 1938 by Central Statistical Office of Italy.

[12] Revised figure.

[13] Revised series. Industrial key materials and consumers' goods industries. 1937=100.

[14] Wage earners employed in manufacturing and building. Quarterly index figures.

[15] New series. June 1948=100. Old series, June 1948=106 on base June 1939=100.

[16] Bizonal Area. 1936=100. All branches of industry, including mining and public utilities, except building and food processes.

[17] 1938.

TABLE II

Wholesale Prices[1]

Index Numbers : 1938=100

Index Numbers		Monthly Averages					1949				
		1939	1945	1946	1947	1948	April	May	June	July	Aug.
U.S.A.	a[2]	98	135	154	193	210	200	198	196	195	195
U.K.	a	101	167	173	189	216	223	228	229	226	225
	b[3]	91.5	138	142	155	178	184	188	189	186	185
France	a	105	375	648	989	1712	1846[4]	1890[4]	1812	1854	1910
	b	92	(275)	189	289	277	299	306	294	302	...
Netherlands ...	a	102	177	245	266	276	290	288	288	...	...
	b	99	(122)	169	183	189	198	197	197	...	...
Switzerland ...	a	104	206	201	209	217	209	206	205	206	(205)
	b	103	...	204	213	221	211	210	209	209	...
Sweden	a	103	174	168	179	192	194	194	195	(195)	(194)
	b	98	...	173	199	212	214	214	216	...	...
Denmark	a	105	190	187	207	227	233	233	231	229	...
	b	98	...	180	198	216	222	222	220	219	...
Norway	a	102	177	169	175	181	183	183	183	188	187
	b	97	...	138	144	148	150	150	150	155	...
Finland	a	105[4]	386	605	727[4]	960[4]	944	932	932	970	...
	b	98	...	207	248	326	322	320	320	284	...
Czechoslovakia ...	a	115	172	301	316	330	357	356	352	...	...
	b	114	...	170	181	190	206	205	203	...	...
Italy	a	105	2060	2883	5159[4]	5443[4]	5393	5287	5219	...	...

[1] Prices expressed in national currencies and in U.S. dollars at official rates.

[2] a=in national currency. [3] b=in U.S. currency. [4] Revised figure.

TABLE III. *Wages*

Index Numbers[1]	Monthly Averages 1939	1945	1946	1947	1948	1949 Apr.	May	June	July
U.S.A.[2]	101	163	173	195	212	219	219	220	220
United Kingdom[3]	...	149	161	168	176	180	180	181	181
Switzerland[4]	100	146	160	174	182	...	...	183	...
France[5]	...	328	448	525	799	...	...	902	...
Netherlands[6]	100	131	163	168	177	...	...	183	...
Czechoslovakia[7]	100	182	304	314	316	...	...	...	...

[1] Base periods : U.S.A. and France : 1938=100 ; United Kingdom : September 1939=100 ; Switzerland : January–August 1939=100 ; Netherlands : 1938–9=100 ; Czechoslovakia ; March 1939=100. [2] Average hourly earnings in manufacturing.

[3] Weekly wage rates ; Ministry of Labour (all industries).

[4] Hourly rates in industry ; quarterly figures.

[5] Hourly rates in the metal industry in the Paris region. The figures for 1948 refer to the average of the quarters. [6] Hourly rates in industry. Men only.

[7] Hourly rates in manufacturing.

TABLE IV. *Foreign Trade.* Volume Index[1]

Index Numbers		Monthly Averages 1939	1945	1946	1947	1948	1949 Mar.	Apr.	May	June	July
U.S.A.	Imports	114	130	139	133	150	160	139	142	142	...
	Exports	105	183	191	255	197	227	228	216	222	...
U.K.	Imports	97	62	69	78	81	82[2]	...	...	88[2]	...
	Exports	94	46	99	109	136	155[2]	...	...	145[2]	(143)
France	Imports	88	34	112	105	101	109	116	109	(98)	(97)
	Exports	99	10	43	83	96	131	145	137	(130)	(126)
Switzerland	Imports	118	31	105	147	147	127	112	110	113	(105)
	Exports	97	57	101	115	126	118	119	116	126	(125)
Sweden	Imports	117	30	94	124	108	105[2]	...	...	...	...
	Exports	108	50	66	73	79	71[2]	...	...	...	...
Norway	Imports	111	46	78	118	100	111	97	152	121	...
	Exports	108	19	61	81	81	110	95	85	80	...
Poland[3]	Imports	...	97[4]	159	128	136	...	...	...	...	...
	Exports	...	17[4]	34	55	100	...	...	...	...	...
Czech'vakia.[5]	Imports	...	...	35	77	99	102[2]	...	...	...	...
	Exports	...	...	26	56	75	85[2]	...	...	...	...
Hungary	Imports	121	1	17	52	62	...	...	...	...	...
	Exports	116	...	15	26	43	...	...	...	...	...
Austria[5]	Imports	...	...	...	24	47	81	76	73	80	...
	Exports	...	...	...	29	54	79	72	74	72	...

[1] Deflated values (1938=100). [2] Average of quarter.

[3] From the Statistical Tables of the Polish Institute for Economic Research.

[4] Monthly average of 3rd and 4th quarter. [5] 1937=100.

TABLE V. *Production of Steel* (*Ingots and Castings*)

Thousand metric tons	Monthly Averages 1937	1938	1946	1947	1948	1949 Mar.	Apr.	May	June	July
U.S.A.	4282	2400	5035	6418	6693	7609	7063	6884	5893	5241
Great Britain ...	1101	881	1074	1057	1260	1590[1]	1239	1282	1529[1]	992
France	660	518	367	478[3]	604	826	750	811	767	742
Belgium	322	190	190	241	326	416	356	339	323	...
Luxembourg ...	209	120	108	143	204	254	208	204	199	188
Sweden	94	83	101	99	105	115	...	...	...	...
Poland	122	120	102	132	...	...	...	...	...	...
Czechoslovakia ...	192	153	139	190	...	...	...	...	...	...
Hungary	55.4	54.0	29.4	49.7	...	...	...	...	...	...
Italy	175	194	96	142	177	146	146	202	198	...
Austria	54.1	...	15.6	29.6	54.0	71.9	64.3	69.4	56.9	(74.6)
Germany :										
Bizone[2] ...	1197[2]	1456	212	251	455	765	715	781	760	...
French Zone ...	...	...	25	63	110	174	153	176	162	...

Source : U.N.O. Monthly Bulletin and other official statistics.

[1] Five weeks. [2] 1936. [3] Revised figure.

TABLE VI. *Coalmining and Supplies*

A. Hard Coal Output. Monthly Figures or Averages[1]

Million Metric tons	Average 1946	Average 1947	Average 1948	1949 Mar.	1949 Apr.	1949 May	1949 June	1949 July	1949 Aug.	Last m. as % of m. av. 1937
U.S.A.[2]	44.8	52.0	49.2	32.2	45.5	47.0	35.2	27.2	...	65
United Kingdom	16.1	16.7	16.7	22.0[4]	17.0	19.0	18.1	15.8	(17.0)	84
West Germany[3] ...	4.5	5.9	7.3	8.9	7.9	8.4	8.1	8.7	(9.0)	79
France (incl. Saar)	4.6	4.6	4.6	6.0	5.5	5.5	5.3[7]	5.0	(5.3)	110
Belgium	1.9	2.0	2.2	2.6	2.4	2.4	2.4	1.9	(2.0)	80
Holland	0.7	0.8	0.9	1.0	0.9	1.0	0.9	1.0	(1.0)	83
Poland	3.9	4.9	5.9	6.4	5.9	6.2	5.7	6.0	...	110
Czechoslovakia ...	1.2	1.4	1.5	1.6	1.4	1.4	1.3	1.2	(1.4)	101

B. Total Imports of Solid Fuels including Bunkers (ton for ton). Monthly Figures or Averages

Thousand Metric tons	Average 1946	Average 1947	Average 1948	1949 Mar.	1949 Apr.	1949 May	1949 June	1949 July	1949 Aug.	Last m. as % of m. av. 1937
France	904	1373	1445	1738	1642	1772	1762[7]	1777	1677	67
Belgium	262	462	224	101	74	92	87[7]	77	69	10
Holland	275	330	324	409	359	492	384[7]	381	384	25
Luxembourg ...	154	187	253	288	296	294	276[7]	263	204	65
Norway	152	203	167	159	95	130	143[7]	150	142	49
Denmark	314	363	308	422	347	456	379[7]	321	371	74
Sweden	297	496	585	604	534	371	244[7]	317	371	50
Switzerland ...	128	210	220	147	147	199	187[7]	181	184	63
Italy	476	757	656	858	700	769	(1502)	1092	...	101
Finland	78	132	190	11	16	69	64	88	134	72
Portugal	50	76	70	122	71	84	(66)	44	70	62
Austria	...	...	...	526	523	531	428	421	464	164
Czechoslovakia ...	13	88	179	254	231	284	(273)	359	326	271

C. Exports of Solid Fuels excluding Bunkers (ton for ton). Monthly Figures or Averages.

Thousand Metric tons	Average 1946	Average 1947	Average 1948	1949 Mar.	1949 Apr.	1949 May	1949 June	1949 July	1949 Aug.	Last m. as % of m. av. 1937
U.S.A.										
Total Exports ...	4105	5919	4124	2140	3821	4986	4569	...	...	388
Expts. to Europe[6]	1370	2811	...	1302	1010	1108	1711[7]	837	(348)[9]	...
Great Britain ...	420	96	963	1110	1016	1192	1203[7]	1397	1275	35
West Germany[3] ...	972	880	1463	1848	1853	1954	1889[7]	1978	(1651)[10]	53[10]
France	33	38	30	63	68	162[8]	138[8]	123[8]	(34)[8]	16
Saar[5]	119	115	...	66	67	...	...	...	...	...
Belgium	78	172	128	55	60	84	115	145	(201)	38
Holland	37	48	82	65	74	68	67	90	80	14
Poland	1349	1922	2493	2897	2800	3023	2681	2493	...	...
Czechoslovakia ...	51	131	246	287	262	302	304	261	268	63

Source : European Coal Organisation ; United Nations Monthly Bulletin of Statistics ; Current Business (U.S.A.)

[1] Calendar months. [2] Including a small quantity of lignite. [3] British Zone.
[4] Five weeks ; other months four weeks.
[5] Figures for 1946 and 1947 include exports to France ; figures for 1948 exclude exports to France and to French Zone and Bizones of Germany.
[6] Reported arrivals of solid fuels in Europe from U.S.A. [7] Revised figure.
[8] France and the Saar. [9] Excluding Italian imports. [13] Excluding exports to Sarre.

NOTICE TO READERS

TABULAR APPENDIX

As many of the series given in the Tabular Appendix are now easily available from other sources, from January 1950 onwards, only estimates of data prepared at the Institute of Statistics will be given. The size of the BULLETIN will not be affected by the reduction of tabular matter.

THE EDITORS.

ERRATUM.

BULLETIN, Vol. 11, No. 10. On page 315, lines 2 and 3, *read :*
. . the replacement of condensed milk by fresh full cream milk,'